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P O Box 747
Falls Church, VA 22040-0747

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1
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3 RECORD OF ORAL HEARING
4 UNITED STATES PATENT AND TRADEMARK OFFICE

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7 BEFORE THE BOARD OF PATENT APPEALS
8 AND INTERFERENCES

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10 Ex parte JEONGMIN MOON

11
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13 Appeal 2009-0067
14 Application 09/589,881
15 Technology Center 2800

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18 Oral Hearing Held: February 10, 2009

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22 Before TERRY J. OWENS, PETER F. KRATZ, and
23 JEFFREY B. ROBERTSON, Administrative Patent Judges

24
25 ON BEHALF OF THE APPELLANT:

26 Robert J. Webster, Esquire
27 BIRCH, STEWART, KOLASCH, BIRCH LLP
28 Suite 100-E
29 8110 Gatehouse Road
30 Falls Church, VA 22042

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1 MS. BOBO-ALLEN: Calendar No. 15, Appeal No. 2009-0067. Mr.
2 Webster.

3 MR. WEBSTER: Good morning. All of the claims except for
4 independent claim 10 are rejected under 35 U.S.C. 102(e) as anticipated by
5 Shinji, U.S. Patent 6,259,854, so I will focus most of my comments this
6 morning on that particular patent.

7 One of the independent claims, claim 10, is rejected under 102(b) as
8 anticipated by a European patent application publication to Funamoto.
9 The -- there are four independent claims. Claim 1 is a subcombination claim
10 as are claims 11 and 21. They're primarily directed to the auxiliary light
11 source for a reflective liquid crystal display device. They recite the light
12 source, for example, claim 1 recites the light source and the light directing
13 member details. There's an angle between the lower surface of the light
14 directing member and side surface of the convex portion that sticks out from
15 the lower surface of the light directing member at about 90 degrees. And the
16 light reflected perpendicular to the LCD device is recited as being uniform.
17 So the basic two characteristics of all the claims are the fact that we have
18 this about 90 degree angle feature and the uniform illumination feature.

19 Claim 10 is a combination of the LCD panel with the subcombination
20 of claim 1, those type features, and claim 11 and claim 21 are
21 subcombination claims. Claim 21 has also got an additional feature of the
22 spacing between the projecting members decreasing as they go away from
23 where the light source is located.

24 The, the basic reference, Shinji, has got similar, a similar device. It's
25 for giving a substantial uniform illumination for a reflective liquid crystal
26 display device. Now Shinji says that his uniform illumination has two

1 aspects. One is scattering reflection efficiency and another is a ray utility
2 factor, and what Shinji wants to do is figure out how he can get the most
3 uniform illumination by combining the scattering reflection efficiency and
4 the ray utility factor.

5 Now Shinji says primarily, and this part of Shinji is exhaustively
6 treated both by the Examiner and in the brief and the reply brief, primarily in
7 column 7 starting at line 5 and going down to about line 40, and what we
8 gather from that is that a trapezoidal pattern on these projections whose
9 slope angle is greater than 5 degrees is preferable in terms of the scattering
10 reflection efficiency. And when you go down further towards line 34, 35
11 and 36, he indicates that a pattern having a trapezoidal slope angle of 10 to
12 30 degrees is desirable to have large ray utility factor and to reduce loss, and
13 if you take a look at Table 1, Table 1 has got seven specific embodiments
14 and two comparative embodiments that if you read the spec, they didn't
15 really work out too well, the comparative embodiments, but the, the seven
16 specific embodiments that were made all have a slope angle of between 20
17 and 25 degrees.

18 So I believe that one of ordinary skill in the art taking a look at Shinji
19 would focus on the fact that you want to improve both the scattering
20 reflection efficiency and the ray utility factor, and in order to do that you're
21 really have to going to come up -- you're going to have to come up with, to
22 get extremely uniform lamination, which goes up to about 80 percent, the
23 efficiency is about -- of uniform lamination is about 80 percent, is if you
24 have this angle between 20 and 25 degrees, although the specification does
25 indicate that the individual components can work like the scattering
26 reflection efficiency is -- tends to be good if the -- that angle is greater than 5

1 degrees and the ray utility factor is in a good range if it's between 10 and 30.
2 But the focus of this Shinji's actual embodiments are that that angle is
3 between 20 and 25 degrees.

4 JUDGE ROBERTSON: Mr. Webster.

5 MR. WEBSTER: Yes.

6 JUDGE ROBERTSON: What is the difference between the devices
7 of comparative embodiments 1 and 2 and your, and your device?

8 MR. WEBSTER: In the comparative ones?

9 JUDGE ROBERTSON: Yes.

10 MR. WEBSTER: The comparative ones seem to -- I mean when I,
11 when I read about the comparative ones, they seem to say that like in -- for
12 the first comparative, says when the distribution of luminance was
13 measured, its uniformity ratio was bad. So I thought that, that the
14 comparative example, which had the less than 3 degrees, indicated it was
15 bad, and that's consistent with what is disclosed in column 7 that says you
16 definitely don't want it lower than 2 degrees.

17 JUDGE ROBERTSON: But structurally speaking, the, the structure
18 of the convex portions of the light guide --

19 MR. WEBSTER: Right.

20 JUDGE ROBERTSON: -- are they -- I mean you, you do not
21 challenge in your brief that angles, you know, the 0 to 2 angles --

22 MR. WEBSTER: No.

23 JUDGE ROBERTSON: -- are, are not different?

24 MR. WEBSTER: No, you can clearly make a device, if you follow
25 this guy's -- if you follow Shinji's disclosure, you can clearly make a device
26 that anticipates our claims. But what I'm saying is -- anticipates the angle

1 aspect of the claim. But it does not anticipate the uniform illusion -- uniform
2 illumination aspect of the claim.

3 JUDGE ROBERTSON: Well, that's what I'm trying to figure out, if
4 the, the angle of the convex portions are the same and why is the -- why
5 would the, the reflectance be -- the refraction pattern be different in Shinji's
6 comparative examples than yours?

7 MR. WEBSTER: You mean just the two -- you mean for like
8 embodiments 1 through 7 or 1 through 6?

9 JUDGE ROBERTSON: No, I mean --

10 MR. WEBSTER: The comparative embodiments 1 through 2?

11 JUDGE ROBERTSON: Yeah, the comparative embodiments,
12 because Shinji apparently made those devices.

13 MR. WEBSTER: Right, but he indicates --

14 JUDGE ROBERTSON: And then tested them.

15 MR. WEBSTER: -- that he gets bad results with comparative
16 embodiment 1, and he indicates with the second comparative example, and
17 I'll quote, "It was unstable and was not suitable as a light guide."

18 JUDGE ROBERTSON: Okay.

19 MR. WEBSTER: Because its luminance increases partially when
20 pressure is applied to the part of -- and part or the uniform illumination is
21 lost depending upon a fixing method.

22 JUDGE ROBERTSON: Okay, but for comparative example 1, he
23 says in column 11 that the uniformity is, is bad.

24 MR. WEBSTER: Right.

25 JUDGE ROBERTSON: What -- you have a uniformity -- you say in
26 your claim 1 that the device is uniform.

1 MR. WEBSTER: Right.

2 JUDGE ROBERTSON: What, what do you mean --

3 MR. WEBSTER: We don't have -- well, we don't have a quantitative
4 description in the specification of what uniformity is. Now traditionally
5 when you think of uniformity, let's say that, that you have a light guide, and
6 let's say the length of it is this, is this wide, okay. If you were to plop the
7 illumination that is reflected perpendicularly across that entire length, okay,
8 you would -- let's say it's, it's up to 80 percent. Here's 100. Here's zero.
9 Let's say it's 80 percent. All right, it would be straight line. That would be
10 uniform. It would be uniform across the entire length. In other words, you
11 wouldn't have a gauching (phonetic sp.) point. You wouldn't have a couple
12 of different curves. And that's basically what I think one of ordinary skill in
13 the art would interpret as uniform illumination and, and that's what the
14 disclosure is directed to, and even though we don't have any quantitative
15 description of it, I think that's what one of ordinary skill in the art would
16 understand.

17 JUDGE ROBERTSON: And --

18 MR. WEBSTER: And I don't think that he -- I don't think he gets this,
19 because he indicates that the distribution of illumination was bad. I mean
20 that's basically what he says, so I think with respect to the two comparative
21 examples, they just don't have uniform illumination. They do have a slope
22 angle that falls within what's claimed about 90 degrees, but I don't think that
23 they have the uniform illumination.

24 JUDGE OWENS: He says the uniformity ratio of 72 is bad. Would
25 you say yours is 100?

1 MR. WEBSTER: I honestly can't -- in good faith I can't say, because
2 I read the disclosure, and the disclosure says uniform, and, and I do know
3 that if -- I mean I, I was trying to, to find that out myself so that I could in
4 good faith present to you what I thought was uniform illumination, and
5 basically everything that I read indicates that uniform illumination is
6 uniform. In other words, it's -- it may have some variation, but it's not going
7 to be a gauching curve in the middle. It's going to tail off rapidly. It's going
8 to be relatively flat across the entire surface that you have. In three
9 dimensional -- in three dimensions it would be a flat plane. In two
10 dimensions it will just be a straight line.

11 JUDGE KRATZ: Now for your device you -- for this uniformity
12 you -- as the convex portions move away from the light, the light source,
13 there, there is less space in between them to help --

14 MR. WEBSTER: And that's, that's disclosed in both references too.
15 The both of the applied --

16 JUDGE KRATZ: Well, that's what I was going to --

17 MR. WEBSTER: -- in other words, that -- and that's only in one of
18 the independent claims. That's in one of the independent claims, but as a
19 practical matter, the disclosure says that to obtain uniformity that's what you
20 do, and the prior art says that too. That's probably why that specific feature
21 in, in that particular independent claim, I think it's 11 -- or 21, was not
22 separately argued but -- because that's something that one of ordinary skill in
23 the art would understand, that that's one of the ways that you get the
24 uniformity.

1 JUDGE KRATZ: So -- but you could have inferior uniformity but
2 still be uniform is what you're saying really, since you don't have a measure
3 for it in your --

4 MR. WEBSTER: We, we do not have any quantitative measurement
5 for it at all. The only thing, the only thing I can rely upon there is the skill
6 level of one of ordinary skill in the art, and that's really another aspect. One
7 of the things that I, I did want to bring up, the MPEP Section 2111.01 talks
8 about how do you interpret the claim and it's, it's -- it essentially summarizes
9 the case law, and what it says is that words have to be given their plain
10 meaning and the ordinary and plain meaning of -- I mean they don't say this
11 about 90 degrees, but in context to this case, the ordinary and plain meaning
12 of about 90 degrees or anything that's at issue can be taken from a variety of
13 sources including the words of the claims themselves, and in here we not
14 only have that angle of about 90 degrees, but we have it coupled with the
15 uniform illumination. So that has to flavor what it means.

16 The remainder of the specification where we say it has to be --
17 typically it's best between 0 and 10 degrees and the prosecution history and
18 extrinsic evidence. We have no extrinsic evidence of record, but we do have
19 the prosecution history, and the prosecution history keeps going back and
20 forth but -- and it talks about the greater than 5 degrees which Shinji focuses
21 on for the scattering coefficient, and the 10 to 20 degrees for the, you know,
22 the geometric reflection-type factor, and the best argument that, that I think I
23 can make is the fact that Shinji's only embodiments, the ones that really
24 work, the 1 through 6, the angle is between 20 and 30 -- I mean, yeah, 20
25 and 25 degrees.

1 So whether the claimed invention differs from that, I think we would
2 have to rely upon one of ordinary skill in the art interpreting the about 90
3 degrees to be coupled with uniform illumination. And the only way that
4 Shinji gets what he considers to be uniform illumination is when that angle
5 is between 20 and 25 degrees.

6 JUDGE KRATZ: Well, yeah, I guess that, that just -- I guess we're
7 just, we're just --

8 MR. WEBSTER: I know.

9 JUDGE KRATZ: -- we're not -- yeah, we're talking about, we're
10 talking about degree. Uniform is --

11 MR. WEBSTER: Right.

12 JUDGE KRATZ: -- can mean different things to different people,
13 and we can have more uniform and less uniform and --

14 MR. WEBSTER: Right.

15 JUDGE KRATZ: -- moderate uniformity and --

16 MR. WEBSTER: Yeah.

17 JUDGE KRATZ: -- high uniformity and low uniformity --

18 MR. WEBSTER: But I think one of ordinary skill in the art would try
19 to get as straight a line as possible or as flat a plane as possible.

20 JUDGE KRATZ: Okay.

21 MR. WEBSTER: That's, that's basically what I have to say.

22 JUDGE KRATZ: All right.

23 MR. WEBSTER: Now with respect to claim 10, I'll basically rest on
24 what the arguments of record are. That's with respect to the -- all the
25 reference --

26 JUDGE KRATZ: Okay.

- 1 JUDGE OWENS: Well, thank you.
- 2 JUDGE KRATZ: No more questions. Thanks.
- 3 MR. WEBSTER: Thank you very much. Appreciate it.
- 4 Whereupon, the hearing concluded on February 10, 2009.